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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,661	07/15/2003	Daigo Hoshino	OKI 360	5886

23995 7590 01/16/2004

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1101 14TH STREET, NW  
SUITE 500  
WASHINGTON, DC 20005

EXAMINER
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STEVENSON, ANDRE C

ART UNIT	PAPER NUMBER
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2812

DATE MAILED: 01/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/618,661	Applicant(s) HOSHINO ET AL.	
	Examiner Andre' C. Stevenson	Art Unit 2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_ is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).  
     a) ☒ All   b) ☐ Some \*   c) ☐ None of the CERTIFIED copies of the priority documents have been:  
         1. ☒ received.  
         2. ☐ received in Application No. (Series Code / Serial Number) \_\_\_\_ .  
         3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

**Attachment(s)**

- |  |  |
|--|--|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                   | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ . |
| 16) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)          | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ . | 20) <input type="checkbox"/> Other: ____ .                                   |

## Detail Action

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 through 4 are rejected under 35 U.S.C. 102(b) as being unpatentable over Tanaka et al (U.S. Pat. No.5593439).

Tanaka et al (U.S. Pat. No.5593439), for **Claim #1**, a method of measuring defocusing, comprising the steps of applying a resist to the top surface of a semiconductor wafer; subjecting the resist to exposure to light, wherein the exposure is carried out by deviating a focus of the light by a given distance away from the resist, in a direction perpendicular to the top surface of the semiconductor wafer, and by using a mask patterned in a geometrical figure comprising a plurality of small rectangles, each narrower in width than a resolution limit of a pattern exposure system, provided on four sides of a large rectangle, and arranged so as to be perpendicular longitudinally or parallel transversely to the respective four sides of the large rectangle; forming a resist pattern by developing the resist after the step of subjecting the resist to the exposure to light; and finding defocusing in relation to the resist on the basis of a length of the resist

pattern, (Column 2, lines 4 through 15, Column 2, lines 52 through 65). (**Column 1, lines 48 through 60, Column 2, lines 27 through 39, Column 16, lines 42 through 49, Column 17, lines 32 through 48, Column 19, lines 47 through 67, Column 20, lines 1 through 5, Column 37, lines 39 through 52**)

With respect to **Claim #2**, a method of measuring defocusing according to claim 1, wherein the exposure is carried out by focusing in a region where a ratio of change in the shape of the resist pattern, to change in the position of the focus, is linear, is taught by Tanaka et al (U.S. Pat. No.5593439) (Column 37, lines 39 through 52, Column 21, lines 62 through 67, Column 22, lines 1 through 4).

Furthermore, **Claim #3**, a method of obtaining correct focusing, comprising the steps of applying a resist to the top surface of a semiconductor wafer, having a plurality of shots; measuring a focus position in relation to the resist; subjecting the respective shots of the resist to exposure to light by deviating a focus by a given distance away from the focus position, in a direction perpendicular to the top surface of the semiconductor wafer, wherein the exposure is carried out by deviating the focus by a given distance away from the resist, in the direction perpendicular to the top surface of the semiconductor wafer, and by using a mask patterned in a geometrical figure comprising a plurality of small rectangles, each narrower in width than a resolution limit of a pattern exposure system, provided on four sides of a large rectangle, and arranged so as to be perpendicular longitudinally or parallel transversely to the respective

fourides of the large rectangle; forming a resist pattern for the respective shots by developing the resist after the step of subjecting the respective shots of the resist to the exposure to light; finding defocusing in relation to the focus position in the respective shots on the basis of a size of the resist pattern for the respective shots; and executing focusing in relation to the resist on the basis of the focus position and the defocusing, is taught by Tanaka et al (U.S. Pat. No.5593439) (Column 8, lines 21 through 56, Column 16 line 42 through 49, Column 1, lines 48 through 60, Column 2, lines 27 through 39, Column 16, lines 42 through 49, Column 17, lines 32 through 48, Column 19, lines 47 through 67, Column 20, lines 1 through 5, Column 37, lines 39 through 52).

Considering now, **Claim #4**, a method of obtaining correct focusing, wherein the exposure is carried out by focusing in respective regions where a ratio of change in the shape of the resist pattern, to change in the position of the focus, is linear, is taught by Tanaka et al (U.S. Pat. No.5593439) (Column 37, lines 39 through 52, Column 21, lines 62 through 67, Column 22, lines 1 through 4).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre' Stevenson whose telephone number is (703) 308 6227. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling, can be reached on (703) 308 3325. The fax phone number for the organization where this application or proceeding is assigned is (703) 308 7724.

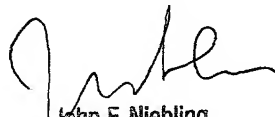
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956. Also, the proceeding numbers can be used to fax information through the Right Fax system;

**(703) 872-9306**

Andre' Stevenson

Art Unit 2812

01/07/04

  
John F. Niebling  
Supervisory Patent Examiner  
Technology Center 2800